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Macroscopic Identification of Fungi in Beddagana Wetland Ecosystem, Sri Lanka

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Abstract

Beddagana Wetland Park is an 18-hectare urban wetland reserve located in Sri Jayewardenepura Kotte, bordering Diyawanna Lake to the west, and supports high wetland plant and animal diversity as well as fungi populations. The present study seeks to accurately identify fungal species present at Beddagana Wetland Park by documenting their key macroscopic features. It also examines fungi present in areas subject to regular human disturbance, particularly in commonly accessed and crowded zones. Field surveys were carried out on four separate days, five days apart from each other. A different group of students performed the survey during each visit, minimizing observer bias while allowing greater coverage for the wetland. Weather conditions varied as follows: the first survey day was rainy, while the remaining three days were dry and sunny. Fungi presented at each site were clearly photographed, the cap and the under-cap. The field records were made on the morphological aspects: colour, shape, gill structure, and habitat. The fungi were identified to the genus level using scientific literature. Among the fungi recorded during the study, the most observed genera were *Neofavolus* and *Pycnoporus*. Other fungal genera, including *Ganoderma*, *Polypore*, *Auricularia*, *Peniophora*, *Ternitomices*, *Fonus*, *Pleurotus*, *Favolus*, *Trametes*, *Chlorophyllum* and *Mycena* were seen on various decaying substrates. This reflected active fungal colonization and ongoing decomposition processes within the wetland ecosystem, even within human-used areas. Most fungal growths within Beddagana Wetland Park were in moist, shaded locations where decaying organic matter, such as leaf litter, logs, and old branches, were present. It appeared that fungal blooming was significantly higher following rainy days compared to sunny days. Colour changes or wilting were evident in most of the fungal bodies as the days became drier. By the fourth day of observation, most of the fungal growth that had appeared earlier had dried up, except for those areas that remained consistently wet. Therefore, the wetland ecosystem at Beddagana supports high fungal diversity. Yet, this richness stands under threat of household waste dumping, poor waste management, and visitor-induced habitat disturbance. Strengthening waste control, improving public awareness, and protecting sensitive microhabitats are essential to conserve fungal communities and maintain wetland ecosystem health.

Keywords: *Beddagana wetland, Fungi, Ecosystem, Biodiversity, Conservation*